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RESPONSE UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE-EXAMINING GROUP 2823

Attorney Docket No. 5308-248

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Saxler et al.
Serial No.: 10/617,843
Filed: July 11, 2003
For: **NITRIDE-BASED TRANSISTORS AND METHODS OF FABRICATION THEREOF
USING NON-ETCHED CONTACT RECESSES**

Date: June 14, 2005

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Commissioner for Patents
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INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 C.F.R. § 1.97(d)

Dear Sir:

Attached is a list of documents on Form PTO-1449, together with a copy of any listed foreign patent document and/or non-patent literature. A copy of any listed U.S. patent and/or U.S. patent application publication is not provided herewith in accordance with the amendment by the U.S. Patent and Trademark Office to 37 C.F.R. § 1.98(a)(2)(ii) effective October 21, 2004. Also enclosed is a translation or a concise explanation of each non-English language document enclosed. It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. §1.56 and Section 609 of the MPEP.

This Information Disclosure Statement is being filed after a Final Office Action under 37 C.F.R. § 1.113 or a Notice of Allowance under 37 C.F.R. § 1.311, but before payment of the Issue Fee. The Final Office Action or Notice of Allowance was mailed on April 20, 2005. In accordance with the requirements of 37 C.F.R. § 1.97(c)(2), a check for the \$180.00 fee specified in 37 C.F.R. § 1.17(p) is enclosed. This amount is believed to be correct; however, the Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,

Elizabeth A. Stanek
Registration No. 48,568

06/16/2005 MBLANCO 00000009 10617843
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CERTIFICATE OF MAILING UNDER 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 14, 2005.

Erin A. Campion



Substitute form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 3

Sheet 1 of 3 Attorney Docket Number 5308-248

U.S. PATENTS AND PATENT PUBLICATIONS

FOREIGN PATENT DOCUMENTS

OTHER NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T
	13.	Ando et al., "10-W/mm AlGaN-GaN HFET With a Field Modulating Plate," <i>IEEE Electron Device Letters</i> , 24(5), pp. 289-291 (May 2003).	
	14.	Chang et al., "AlGaN/GaN Modulation-Doped Field-Effect Transistors with an Mg-doped Carrier Confinement Layer," <i>Jpn. J. Appl. Phys.</i> , 42:3316-3319 (2003).	
	15.	Chini et al., "Power and Linearity Characteristics of Field-Plagted Recessed-Gate AlGaN-GaN HEMTs," <i>IEEE Electron Device Letters</i> , 25(5), pp. 229-231 (May 2004).	
	16.	Cho et al., "A New GaAs Field Effect Transistor (FET) with Dipole Barrier (DIB)," <i>Jpn. J. Appl. Phys.</i> 33:775-778 (1994).	
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	18.	Gaska et al., "Self-Heating in High-Power AlGaN/GaN HFET's," <i>IEEE Electron Device Letters</i> , 19(3), pp. 89-91 (March 1998).	
	19.	Hikita et al., "350V/150A AlGaN/GaN Power HFET on Silicon Substrate With Source-via Grounding (SVG) Structure," <i>Electron Devices Meeting, 2004</i> , pp. 803-806, IEDM Technical Digest. IEEE International (Dec. 2004).	

Examiner Signature _____ Date Considered _____

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 2 of 3

Complete if Known

Application Number	10/617,843
Filing Date	July 11, 2003
First Named Inventor	Saxler et al.
Group Art Unit	2823
Examiner Name	Fernando L. Toledo

Attorney Docket Number 5308-248

OTHER NON PATENT LITERATURE DOCUMENTS

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	20.	Kanaev et al., "Femtosecond and Ultraviolet Laser Irradiation of Graphitelike Hexagonal Boron Nitride," <i>Journal of Applied Physics</i> , 96(8), pp. 4483-4489 (Oct. 15, 2004).	
	21.	Kanamura et al., "A 100-W High-Gain AlGaN/GaN HEMT Power Amplifier on a Conductive N-SiC Substrate for Wireless Base Station Applications," <i>Electron Devices Meeting, 2004</i> , pp. 799-802, IEDM Technical Digest, IEEE International (Dec. 2004).	
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	23.	Kashahara et al., "Ka-ban 2.3W Power AlGaN/GaN Heterojunction FET," <i>IEDM Technical Digest</i> , pp. 677-680 (2002).	
	24.	Komiak et al., "Fully Monolithic 4 Watt High Efficiency Ka-band Power Amplifier," <i>IEEE MTT-S International Microwave Symposium Digest</i> , Vol. 3, pp. 947-950 (1999).	
	25.	Küsters et al., "Double-Heterojunction Lattice-Matched and Pseudomorphic InGaAs HEMT with δ-Doped InP Supply Layers and p-InP Barrier Enhancement Layer Grown by LP-MOVPE," <i>IEEE Electron Device Letters</i> , 14(1), (January 1993).	
	26.	Manfra et al., "Electron Mobility Exceeding 160 000 cm ² /V·s in AlGaN/GaN Heterostructures Grown by Molecular-beam Epitaxy," <i>Applied Physics Letters</i> , 85(22), pp. 5394-96 (Nov. 29, 2004).	
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	29.	Parikh et al., "Development of Gallium Nitride Epitaxy and Associated Material-Device Correlation for RF, Microwave and MM-wave Applications," Cree, Inc. (35 slides).	
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	31.	Shiojima et al., "Improved Carrier Confinement by a Buried p-Layer in the AlGaN/GaN HEMT Structure," <i>IEICE Trans. Electron.</i> , E83-C(12), (December 2000).	
	32.	"Thick AlN template on SiC substrate – Novel semi insulating substrate for GaN-based devices," © 2003 by TDI, Inc., http://www.tdi.com/products/AIN_SiCT.html .	
	33.	Tilak et al., "Influence of Barrier Thickness on the High-Power Performance of AlGaN/GaN HEMTs," <i>IEEE Electron Device Letters</i> , 22(11), pp. 504-506 (Nov. 2001).	
	34.	United States Patent Application entitled "Improved Dielectric Passivation for Semiconductor Devices," Serial No. 10/851,507, filed May 22, 2004 (Cree Docket No. P0274).	
	35.	United States Patent Application entitled "Silicon Carbide on Diamond Substrates and Related Devices and Methods," Serial No. 10/707,898, filed January 22, 2004 (Cree Docket No. P0387).	
	36.	United States Patent Application entitled "Methods of Fabricating Nitride-Based Transistors with a Cap Layer and a Recessed Gate," Serial No. 10/897,726, filed July 23, 2004 (Attorney Docket No. 5308-392).	
	37.	United States Patent Application entitled "High Power Density and/or Linearity Transistors," Serial No. 11/005,107, filed December 6, 2004 (Attorney Docket No. 5308-511).	
	38.	United States Patent Application entitled "Field Effect Transistors (FETS) Having Multi-Watt Output Power at Millimeter-Wave Frequencies," Serial No. 11/005,423, filed December 6, 2004 (Attorney Docket No. 5308-512).	
	39.	United States Patent Application entitled "Group III Nitride Field Effect Transistors (FETs) Capable of Withstanding High Temperature Reverse Bias Test Conditions," Serial No. 11/080,905, filed March 15, 2005 (Attorney Docket No. 5308-516).	
	40.	United States Patent Application entitled "Aluminum Free Group III-Nitride Based High Electron Mobility Transistors and Methods of Fabricating Same," Serial No. 11/118,575, filed April 29, 2005 (Attorney Docket No. 5308-543).	
	41.	United States Patent Application entitled "Binary Group III-Nitride Based High Electron Mobility Transistors and Methods of Fabricating Same," Serial No. 11/118,675, filed April 29, 2005 (Attorney Docket No. 5308-544).	

Examiner Signature		Date Considered
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Substitute form 1449A/PTO				<i>Complete if Known</i>	
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	42.	United States Patent Application entitled "Composite Substrates of Conductive And Insulating or Semi-Insulating Group III-Nitrides For Group III-Nitride Devices," Serial No. 11/103,127, filed April 11, 2005 (Attorney Docket No. 5308-551).			
	43.	United States Patent Application entitled "Thick Semi-Insulating or Insulating Epitaxial Gallium Nitride Layers and Devices Incorporating Same," Serial No. 11/103,117, filed April 11, 2005 (Attorney Docket No. 5308-553).			
	44.	United States Patent Application entitled "Cap Layers and/or Passivation Layers for Nitride-Based Transistors, Transistor Structures and Methods of Fabricating Same," Serial No. 10/996,249, filed November 23, 2004 (Attorney Docket No. 5308-373).			
	45.	Walker, J. L. B. (Ed.), <i>High Power GaAs FET Amplifiers</i> , Norwood, MA: Artech House, pp. 119-120 (1993).			
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	47.	Wu et al., "3.5-Watt AlGaN/GaN HEMTs and Amplifiers at 35 GHz," Cree Santa Barbara Technology Center, Goleta, CA 93117.			
	48.	Wu et al., "30-W/mm GaN HEMTs by Field Plate Optimization," <i>IEEE Electron Device Letters</i> , 25(3), pp. 117-119 (March 2004).			
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